ON THE COMMONER

ACCIDENTS ATTENDING PARTURITION,

THEIR

IMMEDIATE AND REMOTE EFFECTS;

WITH TREATMENT.

BY

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ON THE

COMMONER ACCIDENTS ATTENDING PARTURITION.

When asked to read a paper at this meeting, it seemed to me, after some consideration, that a few remarks which should elicit the practical experience of, and mode of treatment by, the members present, of some accidents occuring in childbirth, would not be inappropriate; inasmuch as no part of medicine or surgery is more important either to the public, the general practitioner, or the specialist who makes midwifery and the diseases of women his chief study.

I propose, therefore, to bring before you some thoughts on the following not uncommon accidents, viz.:

1. Laceration of the cervix uteri.
2. Laceration of the vagina.
3. Laceration of the perinæum.
4. Post-partum hæmorrhage.

It will be obvious to you, considering the wide extent of ground covered by these subjects, that it is impossible in the brief time at my disposal to enter into any one of them fully, nor indeed is it at all necessary, in order to attain my object, that I should attempt to do more than put forward the main points, and I wish to lay special stress upon some, the importance of which it appears to me are not sufficiently widely known or appreciated.

1. *Laceration of the Cervix Uteri.*—This accident is one of the most frequent that occurs during parturition, indeed, most likely some slight tearing takes place in almost every

case, but this kind (as it readily heals) is of no importance except that it may be the path by which septic material gets absorbed, and either pelvic cellulitis or puerperal septicæmia be set up; still the risks are very slight if parturition and the puerperium be conducted somewhat in the manner which I hope to lay before you later on. Lacerations, on the other hand, which extend up to the vaginal reflexion, or even through a great part of the infra-vaginal cervix, have, in addition to the danger of septic absorption, both immediate and remote effects of great importance, which are far too frequently ignored and even denied by some experienced gynæcologists, but which I confidently assert, from personal observation, to be potential factors in the causation of puerperal and chronic uterine disease.

Opinions differ as to the frequency with which these deep lacerations occur, and when occurring, cause uterine disease, for there can be no doubt but that an extensive laceration not infrequently exists in women who are apparently in perfect health.

*Emmet** says that 32·80 per cent. of all the women under his observation, who had been impregnated and had suffered from some form of uterine disease, had laceration of the cervix.

Mundé† examined 2500 parous women and found that 25 per cent. had well-marked laceration, but only about 11 per cent. produced symptoms and required treatment.

Pallen† asserts that 40 per cent. of women with uterine disease have a lacerated cervix.

Goodell† states "that about one out of every six women suffering from uterine disease has an ununited laceration of the cervix."

My own investigations showed me that about 27 per cent. of all the mothers I examined had decided laceration and that 6½ per cent. required local treatment.

It is evident, therefore, that whilst this lesion occurs frequently during parturition, only a comparatively small

* 'Principles and Practice of Gynæcology,' 3rd edit., p. 444.

† 'Minor Surgical Gynæcology,' 2nd edit., p 435.

proportion of all the cases is sufficiently important, from a pathological point of view, to merit recognition as causative of uterine disease ; the proportion is, however, more than sufficient to call for our careful inquiry into the mode of production and the consequences of this accident.

The etiology of these lacerations is much disputed, some considering they occur more frequently where rapid dilatation of the cervix takes place, others that the opposite condition (tedious labour with rigid cervix) is the chief cause, and this certainly was the kind of labour in the great majority of the cases of extensive laceration which have come under my notice.

Two other causes are: (*a*) that pernicious kind of meddlesome midwifery in which a practitioner attempts to hasten the dilatation of a somewhat rigid cervix, by rapidly sweeping one or two fingers round its inner surface, at the same time endeavouring to push the cervix over the head ; and (*b*) the application of the forceps before full dilatation has taken place, and then the speedy delivery of the child. No doubt it is very tempting to one who is an adept in the application of the forceps, especially if he be overworked, to have recourse to what will soon set free both his patient and himself, but I feel sure, if he will carefully make a digital examination about a fortnight later (as I maintain should be the invariable practice of every obstetrician) he will find a much larger percentage of torn cervices amongst those cases where, with the above-mentioned condition, he has used the forceps, than in those where he has administered some chloral or chloroform. On the other hand, I quite agree with Mundé, when he says that " an experienced operator, by gently and gradually evolving the head and regulating its progress, may even prevent a rupture, both of the cervix and the perinæum."

Now, whilst it is fairly certain, and generally admitted, that very few women are confined at term without sustaining some laceration of the cervix, there is great difference of opinion as to what percentage (if any) require operative interference later on.

Dr. J. Henry Bennet, in a paper read before the International Medical Congress in 1881,* said "the operation (*i. e.* trachélorraphy) was a totally unnecessary one, unless in some extreme exceptional case."

This view is also held by some gynæcologists of eminence, to whose opinions much weight should be attached. On the other hand, I am bound to say that the opposition to trachélorraphy is (as far as I know) limited to those who have never yet performed the operation, whereas it is viewed more or less enthusiastically by those who have had practical experience of its value. In the discussion which followed on Dr. Bennet's paper there was a complete unanimity of opinion as to the good it does when carefully performed on judiciously selected cases.

My own experience consists in having operated on twenty-three patients, all of whom were decidedly relieved of their previous symptoms, and some were completely cured.

We are indebted to Dr. Playfair for being the first in this country to thoroughly lay before the profession, in all its bearings, the operation of trachélorraphy, in an able paper which he read before the Obstetrical Society of London.† This paper, with the discussion ensuing thereon, is well worth your perusal.

I would here point out the great value of Sim's speculum in the diagnosis not only of lacerations of the cervix, but also of many other uterine affections. Indeed the ordinary tubular or Ferguson's speculum is practically useless in those cases where laceration with ectropion exists, as it *rolls in* the everted edges, and then the appearance resembles an ordinary case of "so-called" ulceration of the os uteri.

For the last few years I have altogether given up the use of the tubular speculum except to demonstrate to my class the totally dissimilar and deceptive appearances of cases of laceration with ectropion as seen through it, compared to the condition of things revealed by means of the duckbill speculum, a volsellum and pair of tenacula.

* 'Trans. Internat. Med. Congr.,' 1881, vol. iv, p. 338.

† 'Obstetrical Transactions' for 1882, vol. xxiv, p. 54.

The *immediate results* of a laceration may be either (*a*) *nil*; (*b*) hæmorrhage, or (*c*) septic absorption.

Cases of post-partum hæmorrhage sometimes occur where the uterus feels well contracted; the hæmorrhage must necessarily then be due to a laceration either of the cervix or of some other part of the parturient canal.

It is, unhappily, of not very infrequent occurrence to find that within a few days of a woman's confinement her temperature runs up, accompanied by the usual febrile symptoms, and the case develops into an attack of cellulitis in one or other broad ligament, the exudation in which either becames absorbed, leaving more or less permanent injury in the shape of adhesions, flexions, &c, or it undergoes suppuration; in other (and fortunately rarer) cases, puerperal septicæmia sets in with all its accompanying grave dangers.

Now, on examining a puerpera in whom inflammatory symptoms supervene there will be found present (almost invariably) lacerations either of the cervix, the vagina, or the perinæum, and these lacerations, when inspected, will be seen to have a sloughy appearance. Steurer investigated an epidemic of puerperal fever at Strasburg, and found lacerations with diphtheritic patches about the vulva; and from these patches he traced bacteria into the connective-tissue spaces, where their presence set up cellulitis; from the spaces the bacteria entered the lymphatics and thus gave rise to lymphangitis.

The remote effects of laceration depend on the extent of the injury; they may be *nil*, or we may have any of the following, viz. subinvolution going on to areolar hyperplasia of the cervix or whole uterus (so-called chronic metritis), endometritis, cystic degeneration of the cervix, uterine displacements, chronic pelvic peritonitis or cellulitis, chronic ovaritis, sterility or abortion, and lastly, it is said to predispose to epithelioma—a truly formidable list!

It is curious (as Mundé observes) that sterility and abortion should result from the same pathological process, but it is nevertheless true in some cases. At the present moment (March 11th, 1886) I have in my ward a woman

who was admitted a week ago, pregnant at the third month, with an extensive laceration of the cervix, in whom symptoms of threatened abortion set in two days before her admission. This patient's last confinement (six years ago) was a difficult one, and since then she has had seven miscarriages, all at the same period of pregnancy. There is no uterine flexion, nor is there any sign or symptom of syphilis, so it appears to me that the laceration must be the *fons et origo mali.* The patient aborted three days after her admission to hospital, so now, when she is in a fit condition, I will reunite the laceration, in the hope and full belief that her next pregnancy will go on to term.

Treatment.—The prophylactic treatment consists in the judicious use of opium, chloral, or chloroform, in the avoidance of manipulative efforts to dilate the cervix, or attempts to apply the forceps and effect delivery before complete dilatation has taken place. When a laceration occurs it has been recommended by Pallen, of New York, to have recourse to immediate suture. Having failed to check by means of a tampon post-partum hæmorrhage from a lacerated cervix, he passed Sim's speculum, sewed up the tear with silver wire and thus stopped the bleeding, and he advises that this should be done even when there is no hæmorrhage; for my own part, in a case of the above kind, I should first try hot-water injections, and, if these failed, then operate, taking all possible precautions to avoid septic trouble. If, however, there be no hæmorrhage it seems to me better not to attempt immediate suturing, as many lacerations which appear deceptively large just after parturition become much smaller and of no consequence, or even completely unite, if the patient be kept strictly quiet for a few weeks and have a hot vaginal irrigation used night and morning. Here we see the importance of making a digital examination before a patient leaves her bed, in order to satisfy ourselves that no laceration of any moment exists.

It is obviously beyond the scope of this paper to enter into the treatment of *old* laceration of the cervix, or of the conditions it may give rise to.

2. *Lacerations of the vagina* may be of two kinds, superficial and deep.

(*a*) *Superficial* occur very frequently and consist mostly of mere denudation in patches of the mucous membrane; as seen by Steurer's researches above alluded to, they offer facilities for the entrance of septic germs, and their treatment consists in the antiseptic management of labour which will be discussed presently.

(*b*) *Deep* lacerations of the vagina may occur at any part of this canal, but the commonest kind takes place at its lowest part in what forms *the pelvic floor;* they are very important, and special attention has been drawn to them by Emmet, of New York,* and Schatz, of Rostock.† Emmet considers that the lesion takes place in the *connective tissue and fascia* of the pelvic floor. He says, "In like manner, under certain circumstances in child-birth, the soft parts of the vagina are crowded up in advance, as the head passes along the floor of the pelvis. Laceration, if it occurs, does not take place in the posterior commissure of the labia majora, but begins somewhere within the canal. And it is only as the shoulders escape that the rent is completed externally. The soft parts may be lacerated or not, but in many instances before they are torn I believe the fascia extending from the sulcus on each side becomes separated from its connection with the vaginal outlet, and this separation may take place without any external injury. We then have the condition I have compared to the mouth of a bag without the running string."

Schatz, on the other hand, believes that *the muscles* in the pelvic floor are lacerated, and he remarks as follows: "Hitherto neither the frequency nor the clinical significance of lacerations of the muscles of the pelvic floor has been sufficiently appreciated. In their connection with displacements of the pelvic organs, and especially with prolapse, they are quite as important as, if not more important than, laceration of the perinæum."

* Op. cit., p. 366.

† 'Centralblatt für Gynaekologie,' Band xl, Oct. 6th, 1883.

Hence the result of these deep lacerations is that we not unfrequently see cases of prolapsus uteri where there is a fairly good perinæum, so that this structure, although it undoubtedly forms a small but strong part of the sacral segment of the pelvic floor, and thus aids, when perfect, in maintaining the female pelvic organs in position, does not form, as hitherto stated, "the keystone of the arch."

My attention was specially drawn to these deep vaginal lacerations by seeing Dr. Emmet perform, at the Women's Hospital in New York, his plastic operation on the posterior vaginal wall for their cure, and I have since operated in one case myself, with much benefit to the patient.

As these lacerations are usually associated with more or less tearing of the perinæum also, their immediate treatment is to pass deep sutures, so as to unite both perinæum and torn pelvic-floor muscles at the same time.

3. *Laceration of the perinæum* is (as Dr. Fordyce Barker says)* "an accident of parturition which has occurred in the practice of the best obstetricians, and cannot always be prevented; but I believe that a thorough appreciation of the conditions under which it is liable to happen, and a judicious and timely use of means appropriate to each special condition to avert the danger, will render the accident a very rare one."

Dr. Barker gives the following conditions as likely to produce it:

1. A very straight sacrum.
2. Vulvar orifice more or less at right angles to pelvic outlet.
3. An unyielding perinæum.
4. Extreme smallness of vulva.
5. A large fœtal head.
6. Occipito-posterior and face presentations.
7. Incomplete flexion of the head.
8. Very rapid or very tedious labours.
9. Excessive irritability of the patient.
10. Unskilful manual or instrumental interference.

When once a laceration has begun its extent depends,

* 'The Puerperal Diseases,' 4th edit. p. 40.

pari passu, on the rapidity with which the head and shoulders emerge, being greater the quicker delivery is effected.

This lesion may be followed either by septic poisoning or hæmorrhage. And later on, owing to the partial destruction of the pelvic floor, rectocele may occur, followed in its turn by uterine prolapse or other displacement and their associated evils.

Now what do you consider the best means of preventing laceration?

For my own part, I have no faith in supporting the perinæum as I fail to see how it can be of use. Believing that the majority of ruptures are due either to a too rapid and forcible expulsion of the head, or to its premature extension before the nape of the neck is well under the symphysis, so that the head is delivered with the occipito-frontal instead of the shorter sub-occipito-bregmatic diameter presenting, my mode of treatment is as follows: "When the head is coming down on the perinæum, having lubricated with carbolised vaseline both surfaces of this structure, I endeavour to maintain flexion and regulate the rate of progress of the head by pressing the fingers of the left hand against the fore part of the head, whilst those of the right hand assist by hooking down the occiput, and in this way one is able, I think, to stave off in some cases a rupture; if, however, notwithstanding this precaution a laceration seems impending, I make lateral incisions in the vulval outlet with a pair of scissors, each incision being about an inch distant from the fourchette and half to one inch in length. In not a single instance where I have performed this simple operation of episiotomy has the perinæum itself given way, nor has there been any trouble subsequently from the incisions, which united perfectly after the insertion of one or two catgut sutures. I am bound to admit, however, since advocating (in a paper published in the 'Lancet' in 1884) lateral incisions, and having read a valuable paper by Credé* on *single* lateral incisions for the prevention of

* 'Archiv für Gynaekologie,' Band xxiv, S. 148.

perinæal rupture (a good abstract of which appears in the 'Year Book of Treatment' for 1885, from the pen of Dr. Champneys), that in all probability the *double* incision is unnecessary. Credé describes the method in which the operation is performed at Leipzig as follows: "One blade of a strong pair of straight scissors is inserted flat-wise between the vulva and head about an inch from the fourchette, then when the acme of the pain has passed a cut is made outwards towards the tuber ischii (half to one inch in extent) and either through the skin or through the skin and muscle. It is important not to cut at the height of a pain, otherwise, owing to the rapid advance of the head, extensive laceration may take place; whereas, if performed as the pain is passing off, we can better regulate the extent of the incision and the suffering is less than when the pain has quite passed away."

Credé advises that the incision be closed with silk.

From an analysis of 2000 cases he gives the following tables:

I. *Primiparæ* (997).

Lateral incisions . . .	259 = 25·9 p. c.
Spontaneous ruptures . .	104 = 10·4 p. c.
Rupture in spite of incisions .	29 = 2·9 p. c.
Perinæal injuries . .	392 = 39·2 p. c.

II. *Multiparæ* (1003).

Lateral incisions . . .	12 = 1·2 p. c.
Spontaneous ruptures . .	24 = 2·4 p. c.
Rupture in spite of incisions .	0 = 0 p. c.
Perinæal injuries . .	36 = 3·6 p. c.

III. *Primiparæ* + *Multiparæ* (2000).

Lateral incisions . . .	271 = 13·5 p. c.
Spontaneous ruptures . .	128 = 6·4 p. c.
Rupture in spite of incision .	29 = 1·4 p. c.
Perinæal injuries . .	428 = 21·3 p. c.

He sums up as follows: "Very rarely, and only in very unfavorable and exceptional cases, does laceration follow incision; the oftener incision is practised the rarer are lacerations; complete ruptures are abolished; the lying-in is far more favorable after incision than after laceration. Incision prejudices recovery inappreciably or not at all; the vulva is not really damaged. Incision does not favour infection; the pain is trivial, and pain is saved by shortening the most painful stage of labour; by relieving pressure it helps to avoid sloughing."

In the event, however, of laceration taking place, I maintain that it is manifestly our duty to bring the lacerated surfaces together by means of deep sutures, even though the tear be slight, and *a fortiori* when it is extensive, in order not only to lessen the risk of septic absorption, but also to obviate ill-effects later on, and the necessity for a secondary perinæoraphy. One's own plan is this, "The patient lying on her left side with the legs well flexed and the uterus maintained in firm contraction by an assistant, the nurse raises the right knee well away from the left; a piece of sponge the size of an orange wrung out of an antiseptic solution is passed into the vagina in order to prevent blood trickling down and obscuring the parts, then the left forefinger is inserted into the rectum and the posterior vaginal wall pulled forwards, so as to expose *the whole extent of the tear,* which is next cleared of any clots and sponged over with an antiseptic solution; then two or three sutures (I prefer silver, but chromicised gut or silk will do) are passed deeply by means of a well-curved needle set in a handle, so as to include all the laceration; the two deepest sutures are now twisted, then the sponge withdrawn, and the remaining suture rapidly secured. The sutures are left in for a week, the vagina kept free from discharge in the manner to be presently mentioned, the bowels are kept quiet for five days if the laceration be extensive, and especially if the sphincter ani be involved, but if it be slight or there be any special indication for doing so,

a mild dose of castor oil or other aperient may be given on the third morning."

Chloroform, as a rule, is unnecessary unless the patient be very nervous, if, however, it be given at all, the patient should be placed completely under its influence, otherwise her struggles will render the operation very difficult of performance. I would express my conviction that it is far more important for a practitioner to carry to every midwifery case a perinæum needle and some wire, gut or silk, than to have a bottle of ergot.

4. *Post-partum hæmorrhage.*—Although this is a not very uncommon accident of childbirth, it is in the fullest sense a preventable one, and it occurs frequently only under one condition, viz. "when the third stage of labour has been mismanaged." I cannot do better than quote Playfair's words on the subject :* "I believe that if this lesson were driven into the mind of the practitioner, that every case is to be treated as if hæmorrhage was about to occur, then it would be of the rarest possible occurrence. If I hear of a man who is always having hæmorrhage amongst his patients, I feel myself justified in concluding that that man either does not know, or does not practise, the proper management of the final stage of labour."

Now, whilst the fact that in an attendance on nearly one thousand midwifery cases I have not had a single case of what could be termed flooding, may be due to good fortune, I am inclined to attribute it to my mode of procedure, which is in every case as follows : "When the child is about to be born, I make the nurse spread out both her hands over the abdomen, then to follow up the uterus as it is being emptied, and to maintain firm pressure, without intermission for a single instant, until I relieve her. Having separated the child and placed it comfortably aside, I wash my hands and then slip them underneath those of nurse (but next the patient's skin) and grasping the uterus, which is almost invariably contracted, gently knead it whilst pressing it back towards the sacrum. The placenta

* Discussion on "The Prevention and Treatment of Post-p rtum Hæmorrhage," 'Trans. Internat. Med. Congr. 1881,' p. 357.

is thus expelled (usually in about ten minutes) by a *vis a tergo,* and under no circumstances whatever is the slightest traction made on the cord."

This method, it will be seen, is not very different from that advocated during the last few years by Credé, and which has been widely adopted. This is his description.* "It is chiefly important to utilise exactly the proper point of time for pressure witn the hand. The hand should be softly laid upon the uterine region; at first very gentle stroking movements over the largest possible surface of the uterus are made, until a contraction is felt under the hand; next grasp with the outspread fingers and hand (or, where one hand is insufficient, with both hands) the uterus and at the moment when the contraction seems to have reached its greatest energy, press boldly upon the fundus and walls of the uterus, in the direction of the hollow of the sacrum. To press upon the uterus during the absence of a contraction, in order to remove the after birth, is entirely wrong and does not fulfil his object."

He also says that the most advantageous, and at the same time perfectly harmless, period for the expression is the third or fourth contraction which occurs about five minutes after birth, and he asserts that if, after the lapse of half an hour, the placenta has not been delivered he regards the case as pathological and demanding manual intra-genital aid.

With regard to the curative treatment of post-partum hæmorrhage I shall only remark that the emptying of the uterus of all clots followed by the injection of hot water and the subcutaneous injection of ergotine, will prove sufficient for almost all cases, and that considering the dangers attending the use of perchloride of iron injection this should only be had recourse to in the most desperate cases, whilst the frequent subcutaneous injection of ether will sometimes obviate the necessity of transfusion.

Such, gentlemen, are the few remarks I wished to make on some of the accidents attending childbirth, but seeing that almost all cases of septic poisoning occurring in

* 'Archiv für Gynaekologie,' 1881, S. 264.

puerperal women are due to hetero-infection, and few (if any) to auto-infection, I cannot refrain from pointing out before concluding this paper the immense importance of the strict use of antiseptics in midwifery practice, not only on the part of the practitioner himself, who, as a rule, only touches the genitals during parturition, but more particularly on the part of the nurse, who should have definite rules laid down for her guidance, so that she may always wash her hands with carbolic soap before attending to her patient, and should keep the vaginal pipe and the catheter constantly in a 1 in 40 carbolic or 1 in 2000 perchloride of mercury solution.

I venture to suggest then, that every midwifery case should be conducted somewhat as follows:

Before making a digital examination the hands should be carefully washed with carbolic soap,* and the finger smeared with a 1 in 10 solution of carbolized oil; that the vagina should be washed out (before the birth of the child) with either a 1 in 40 carbolic, or a 1 in 2000 perchloride of mercury, solution.† After any perinæal laceration has been sutured, a vaginal injection of a 1 in 2000 sublimate solution should be administered and repeated night and morning for about five days. And for the following week a 1 in 4000 solution night and morning, every precaution possible being taken that no septic matter be brought near the vulva by the fingers either of the practitioner or nurse.

If every woman's lying-in were to be conducted on the above-mentioned lines, it seems to me that we should but seldom meet with a case of that fearful malady, puerperal septicæmia.

* Calvert, of Manchester, supplies an elegant 1 in 20 carbolic soap in a small metal case for carrying in the waistcoat pocket.

† Messrs. Calvert prepare a granulated phenol readily soluble in warm water without deposit, and Messrs. Krohne and Sessmann supply small bottles containing Professor Helferich's sublimate tampons, each one of which dissolved in a pint of water makes a 1 in 1000 solution.

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